SOUTH DAKOTA STATEWIDE FISHERIES SURVEY

2102-F21-R-45

Name: Vobedja Dam **County:** Perkins

Legal description: Sec. 15, Twn. 22N, R 12 E
Location from nearest town: 4 mi north and 1 ½ mi east Lodgepole
Dates of present survey: June 27, 2012
Date last surveyed: NA
Management classification: Warmwater semi-permanent

Primary Species: (game and forage)	Secondary and other species:
1. Yellow Perch	1. Fathead Minnow
2. Black Crappie	2. Brook Stickleback
3.	3.
4.	4.
5.	5.

PHYSICAL CHARACTERISTICS

Surface Area: 30 acres **Watershed:** NA acres
Maximum depth: 15 feet (historically) **Mean depth:** 6 feet (historically)
Lake elevation at survey (from known benchmark): Three feet below full-pool

Ownership of lake and adjacent lakeshore property:

The lake is owned by the state of South Dakota as a game production area (GPA).

Fishing Access:

The road going to Vobedja Dam (off the highway) is not a maintained road and it may be difficult to access Vobedja Dam during or just after precipitation events. There are areas that are relatively open (without dense emergent shoreline vegetation) allowing fairly good shoreline fishing access. There is no boat ramp at Vobedja Dam, and it would be difficult to launch a boat (that cannot be carried) especially when the water level is low.

Observations of water quality and aquatic vegetative condition:

There is emergent and submergent vegetation around much of the shoreline with open areas around the dam and some other areas. The lake level was low during the survey so there were areas of muddy shoreline. No obvious pollution problems were identified at the time of the survey.

Observations on conditions of structures (i.e. spillway, boat ramps and docks, roads, etc.):

There were no obvious issues with the dam identified during the survey.

MANAGEMENT OBJECTIVES

Objective 1. Provide a Largemouth Bass fishery as water levels allow.

Objective 2. Provide a panfish fishery as water levels allow.

BIOLOGICAL DATA

The fishery survey of Vobedja Dam occurred on June 27-28, 2012. The survey consisted of four modified fyke (trap) nets nights consisting of a 1.3 X 1.5 m frame, 19.1 mm (0.75 in) mesh and a 1.2 X 23 m (3.9 X 75.5 ft) lead, 3 quarter arc seine hauls, and 2 angler hours (Figure 1). Four fish species were collected during the survey. These include Black Crappie, Yellow Perch, Fathead Minnows, and Brook Stickleback. A total of eight Black Crappie and 21 Yellow Perch were in the trap nets (Table 1). Discussion on selected fish species follows and completes this report.

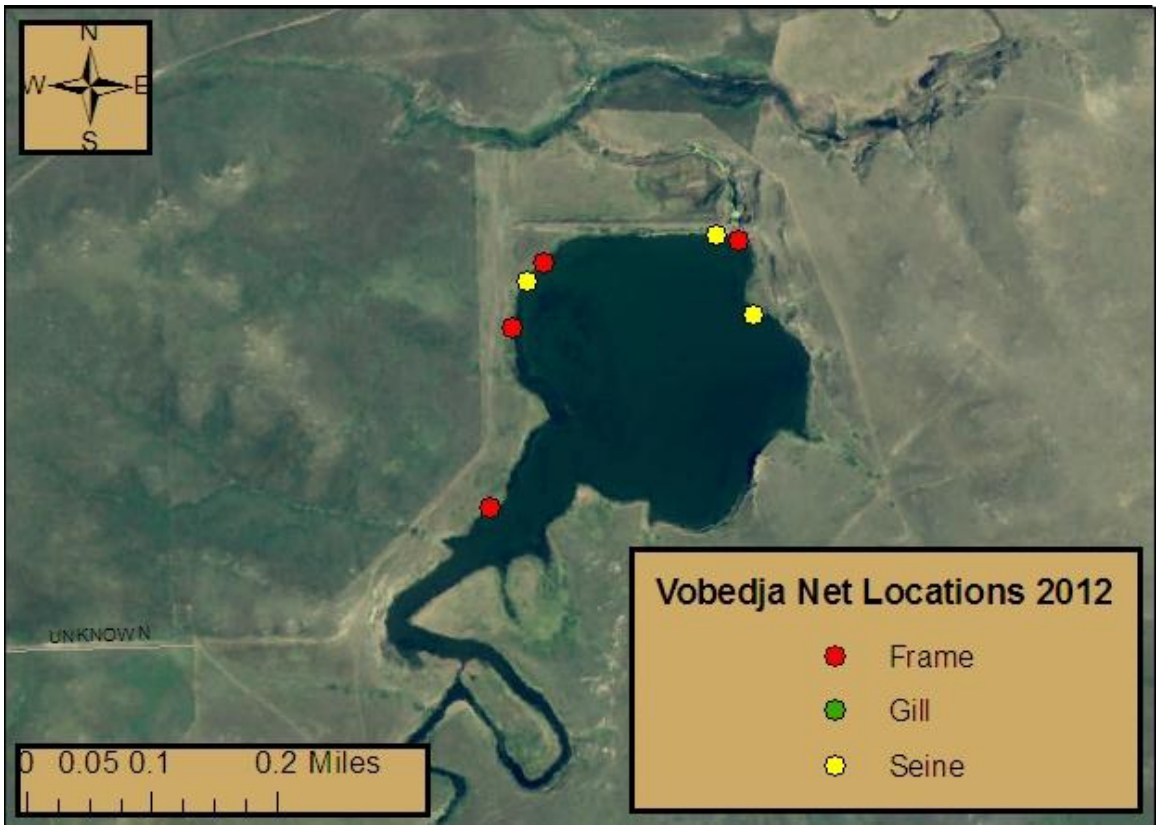

Figure 1. Location of modified fyke (frame) net and quarter arc seine hauls during the fishery survey of Vobedja Dam, Perkins County, South Dakota, 2012.

Table 1**.** Species, number captured (N), catch per unit effort (CPUE), catch per net night of stock-length fish (CPUE-S), proportional stock density (PSD) and proportional stock density of preferred size fish (PSD-P) and relative weight of stock length or greater fish (*Wr*>S) from all species collected in modified fyke trap nets from Vobedja Dam, Perkins County, South Dakota, 2012. CPUE's with 80% confidence intervals in parentheses. PSD, PSD-P and *Wr*>S with 90% confidence intervals in parentheses.

Species	N	CPUE	CPUE-S	PSD	PSD-P	*Wr* ≥ S
Black Crappie	8	2 (1.9)	2 (1.9)	100	0	110.1 (2.8)
Yellow Perch	21	5.3 (6.4)	5.3 (6.4)	52 (24)	19 (18)	103.8 (2.9)

No Largemouth Bass were collected during 2 angler hours. Additionally, three quarter arc seine hauls revealed no Largemouth Bass. Largemouth bass were last stocked into Vobedja Dam in 2010.

Black Crappie were only collected in modified fyke nets (Table 1). All sampled Black Crappie were quality length with a proportional stock density (PSD) of 100 (Table 1). Condition was good for Black Crappie with a mean relative weight of stock length or greater fish *(Wr* ≥ S) of 110 (Table 1).

Yellow perch were the most abundant fish species surveyed in Vobedja Dam (Table 1). There was a range of sizes of yellow perch from slightly greater than stock length to greater than preferred length (Figure 2). The proportional stock density (PSD) and proportional stock density of preferred size fish (PSD-P) was 52 and 19, respectively (Table 1). The mean *Wr* ≥ S was 103.8 (Table 1). Reproduction was evident as young of the year or possible age-1 and adult Yellow Perch were collected during the three quarter arc seine hauls as well.

Fathead Minnow and a Brook Stickleback were collected during the seine haul survey.

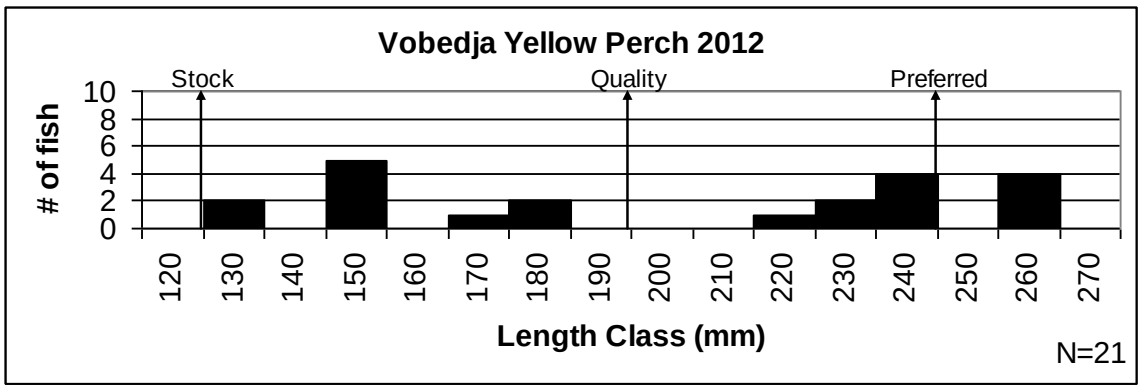

Figure 2. Length frequency histogram of yellow perch collected in modified fyke nets in Vobedja Dam, Perkins County, South Dakota, 2012.

RECOMMENDATIONS

1. Continue conducting a standard lake survey once every 5 years, or as needed to evaluate the fishery and or fish stockings.

2. Create a Largemouth Bass and maintain the Yellow Perch populations through stockings as lake water levels appear full or nearly full.

APPENDIX

Appendix A. Stocking history, including year, species, size and number of fish stocked (# of fish) for Recent Vobedja Dam, Perkins County, South Dakota, 2010-2012.

Year	Species	Size	# of Fish
2010	Golden shiner	Adult	20
2010	Yellow perch	Adult	200
2010	Largemouth bass	Fingerling	2,000